Maryland
Department of
the Environment

Permit Conditions Overview

Proposed Surface Water Discharge Permit
for
Mountain Christian Church WWTP
Application No. 18-DP-3850, NPDES No. MD0072001

Tuesday, July 2, 2019

PERMITTING PROCESS

ANNOUNCEMENT

Commend Period Extension:

The Department has decided to host a second informational meeting for those who unable to attend today's informational meeting. We are also extending the public comment period to **8/2/2019**.

Second Informational Meeting:

Time: Tuesday, July 16 at 6:30PM
Location: Baltimore County Public Library – Perry Hall Branch
9685 Honeygo Blvd. Perry Hall, MD 21128

FACILITY INFORMATION

Proposed Permit to Authorize

Mountain Christian Church
1824 Mountain Road
Joppa, MD 21085

To Discharge from: Mountain Christian Church WWTP

Located at: 1824 Mountain Road
Joppa, Harford County, MD 21085

Through Outfall: 001A (Facility Effluent)

To: Indian Grave Run, a tributary of Little Gunpowder Falls

MAP OF DISCHARGE POINT

DESIGNATED USE III WATER

The effluent receiving streams are designated as Use III Water to support:

1. Growth and propagation of trout.

2. Water contact recreation.

WATER QUALITY CRITERIA

Parameter	Regulations
BOD_5	COMAR 26.08.02.03-3D(2), COMAR 26.08.04.04C(1), COMAR 26.08.01.01B(80), and 40 CFR§133.102.
TSS	COMAR 26.08.02.03-3D(5), COMAR 26.08.02.03-3A(5), COMAR 26.08.04.04C(1), COMAR 26.08.01.01B(80) and 40 CFR§133.102 - §133.105.
TKN	COMAR 26.08.02.03-3D(2).
Ammonia as N*	COMAR 26.08.02.03-2H & COMAR 26.08.02.03-2I and COMAR 26.08.02.05C, COMAR 26.08.02.05D.
Total N	The Chesapeake Bay TMDL
Total P	The Chesapeake Bay TMDL
E. Coli	COMAR 26.08.02.03-3D(1) and COMAR 26.08.02.03-3A(1).
TRC*	COMAR 26.08.02.03-3D(7).
pH	COMAR 26.08.02.03-3D(4) and COMAR 26.08.02.03-3A(4).
Dissolved Oxygen*	COMAR 26.08.02.03-3D(2).
Temperature*	COMAR 26.08.02.03-3D(3).
Flow	COMAR 26.08.04.02A(2). The discharge is consistent with the Harford County water and sewer master plan.

*Use III specific requirements

PROPOSED EFFLUENT LIMITATIONS

Effluent Characteristic	Effluent Limit
BOD_5	6 mg/L monthly ave. & 9 mg/L weekly ave. (5/1 to 10/31) 15 mg/L monthly ave. & 23 mg/L weekly ave. (11/1 to 4/30)
TSS	30 mg/L monthly ave. & 45 mg/L weekly ave.
TKN	2.4 mg/L monthly ave. & 3.6 mg/L weekly ave. (5/1 to 10/31)
Ammonia as N	0.71 mg/L monthly ave. & 2.14 mg/L daily ave. (5/1 to 10/31) 1.0 mg/L monthly ave. & 2.14 mg/L daily ave. (11/1 to 4/30)
Total N	5.0 mg/L annual average concentration
Total P	0.3 mg/L annual average concentration
E. Coli	126 MPN/100 mL monthly geometric mean value
TRC	The use of chlorine is prohibited.
pH	6.5 to 8.5
Dissolved Oxygen	7.0 mg/L at any time
Temperature	20°C (68°F) or ambient temperature, whichever is greater
Flow	2,400 gpd

PROPOSED MONITORING REQUIREMENTS

Effluent Characteristic	Sampling Frequency	Sampling Method
BOD_5	One per week	24-hour composite
TSS	One per week	24-hour composite
TKN	One per week	24-hour composite
Ammonia as N	One per week	24-hour composite
Total N	One per week	24-hour composite
Total P	One per week	24-hour composite
E. Coli	One per week	Grab
pH	One per day	Grab
Dissolved Oxygen	One per day	Grab
Temperature	One set per week	Immersion Stabilization
Flow	Continuous	Recorded

PROPOSED DISCHARGE IN PERSEPECTIVE

The flow rate from this permit will be less than **1.7 gallons per minute** (2,400 gallons per day).

In comparison, a typical ½ inch diameter garden hose attached to a faucet has a flow rate of **6 to 24 gallons per minute**.

COMMON QUESTIONS

1. What is the status of the septic system ?

2. Is direct discharge to surface waters the only option available?

3. What is the proposed wastewater treatment system?

4. How much nutrient reduction can be achieved by the new treatment system and how does the proposed permit compare with the existing permit in terms of nutrient loading?

5. Will this proposed discharge affect water supply wells?

COMMON QUESTIONS

What is the status of the septic system ?

Groundwater Discharge Permit 14-DP-3429

Wastewater from the church and school buildings is conveyed by sewer to a pretreatment system and up to an average of 2,400 gpd of treated wastewater is discharged to drain fields.

The Department has formally notified the Church of ongoing violations including the problems associated with the drain field. The Church is required to submit information to the Department regarding corrective actions the Church will take to resolve these violations.

COMMON QUESTIONS

Is direct discharge to surface waters the only option available?

Direct surface discharge is the most reasonable solution for the following reasons:

- Public sewer is not available.
- Pump and haul is an interim and unsustainable solution.
- The land site has a long history of being marginal at best and the current groundwater permit is in essence already the result of a "repair status".

COMMON QUESTIONS

What is the proposed wastewater treatment system?

- Membrane biological reactor (MBR)
- The latest and best available technology for this type of discharge.
- Presentation of MBR process will follow.

COMMON QUESTIONS

How much nutrient reduction can be achieved by the new treatment system?

- The existing groundwater permit has an effluent concentration limit of 20 mg/L Total Nitrogen.
- The proposed surface discharge permit will have an effluent concentration limit of 5 mg/L Total Nitrogen which is the most stringent limit of any wastewater treatment plant of this size.
- The existing groundwater permit does not have an effluent concentration limit for Total Phosphorus.
- The proposed surface discharge permit will have an effluent concentration limit of 0.3 mg/L Total Phosphorus.

COMMON QUESTIONS

How does the proposed permit compare with the existing permit in terms of nutrient loading?

- The total loading of Nitrogen to the environment for the new surface discharge is capped at 43 lbs/yr, which is equal to the final edge of stream delivery load from the existing groundwater discharge if it were not failing.

- The total loading of Phosphorus is insignificant at 2.3 lbs/yr or 0.006 lbs/day and will remain consistent with the requirements under the watershed implementation plan for the Chesapeake Bay.

COMMON QUESTIONS

Will this proposed discharge affect water supply wells?

The proposed nitrogen effluent limitation is more stringent than the limitation required for the groundwater quality monitoring well from the existing groundwater permit 14-DP-3429.

Based on comments received, the Department is reviewing the effluent bacteria requirement set for the proposed discharge permit to ensure water supply wells are fully protected.

CONCLUSION

- We will continue to review all comments received to ensure that this permit is fully protective.
- This is the strongest and most protective discharge permit (dissolved oxygen, nutrients and temperature) we have ever considered for a flow this size.
- This is the most advanced wastewater treatment technology ever proposed for a facility of this size.

CONTACT INFORMATION

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QUESTIONS?